PHASE III ARCHEOLOGICAL INVESTIGATIONS OF 18CV491 AND 18CV492 DUNKIRK PARK AND RIDE CALVERT COUNTY, MARYLAND

MANAGEMENT SUMMARY

PREPARED FOR
MARYLAND TRANSIT ADMINISTRATION
6 SAINT PAUL STREET
BALTIMORE, MARYLAND 21202-1614

PREPARED BY
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MCCORMICK TAYLOR, INC.
509 SOUTH EXETER STREET
4TH FLOOR
BALTIMORE, MD 21202

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I. INTRODUCTION

This Management Summary presents a discussion of the Phase III Archeological Data Recovery field investigations and interim study results of archeological sites 18Cv491 and 18Cv492, which are located in Dunkirk, Calvert County, Maryland (**Figure 1** and **Figure 2**).

The undertaking prompting the Phase III investigations of 18Cv491 and 18Cv492 is the Dunkirk Park and Ride Project, which entails the construction of an approximately 500-space commuter bus park and ride lot with three associated stormwater management facilities on approximately 15 acres. The Dunkirk Park and Ride project site, within which 18Cv491 and 18Cv492 are situated, is located on the east side of MD 4 just north of Town Center Boulevard (**Figure 1** and **Figure 2**).

The subject sites of this document are two intact Late Archaic-Middle Woodland short-term habitation sites that were identified and evaluated during a 2008 Cultural Resources Eligibility and Effects study conducted to fulfill Section 106 compliance requirements for the Dunkirk Park and Ride Project (Silber et al. 2008). The sites have been determined eligible for the NRHP by MD SHPO Opinion under Criterion D (MHT letter dated 10/21/2008).

The Phase III data recovery investigations of 18Cv491 and 18Cv492 were implemented as a treatment measure to address adverse effects on the sites in accordance with Stipulation I of a Memorandum of Agreement (MOA) amongst the Federal Transit Administration (FTA), the Maryland State Historic Preservation Officer (SHPO), and the Maryland Transit Administration (MTA) for the Dunkirk Park and Ride Project (executed June 9, 2010).

The Phase III investigations were initiated in Summer 2012 by McCormick Taylor, Inc. for the Maryland Transit Administration (MTA). Fieldwork was completed in Early Winter 2013. Funding for the 2008 Section 106 compliance study and the Phase III Archeological Data Recovery of 18Cv491 and 18Cv492 was provided by the MTA and the FTA.

A. Project Goal

The goal of the Phase III investigations was to recover and record a sufficient representative sample of the sites' significant archeological data that would otherwise be lost during the construction of the Dunkirk Park and Ride facility and its associated stormwater management facilities.

The Phase III investigations of 18Cv491 and 18Cv492 entailed implementation of a project-specific data recovery plan that was developed in consultation with the Maryland Historical Trust (MHT). This data recovery plan is Exhibit A of the aforementioned MOA and is entitled *Phase III Archaeological Data Recovery Investigations of 18Cv491 (Dunkirk P/R*

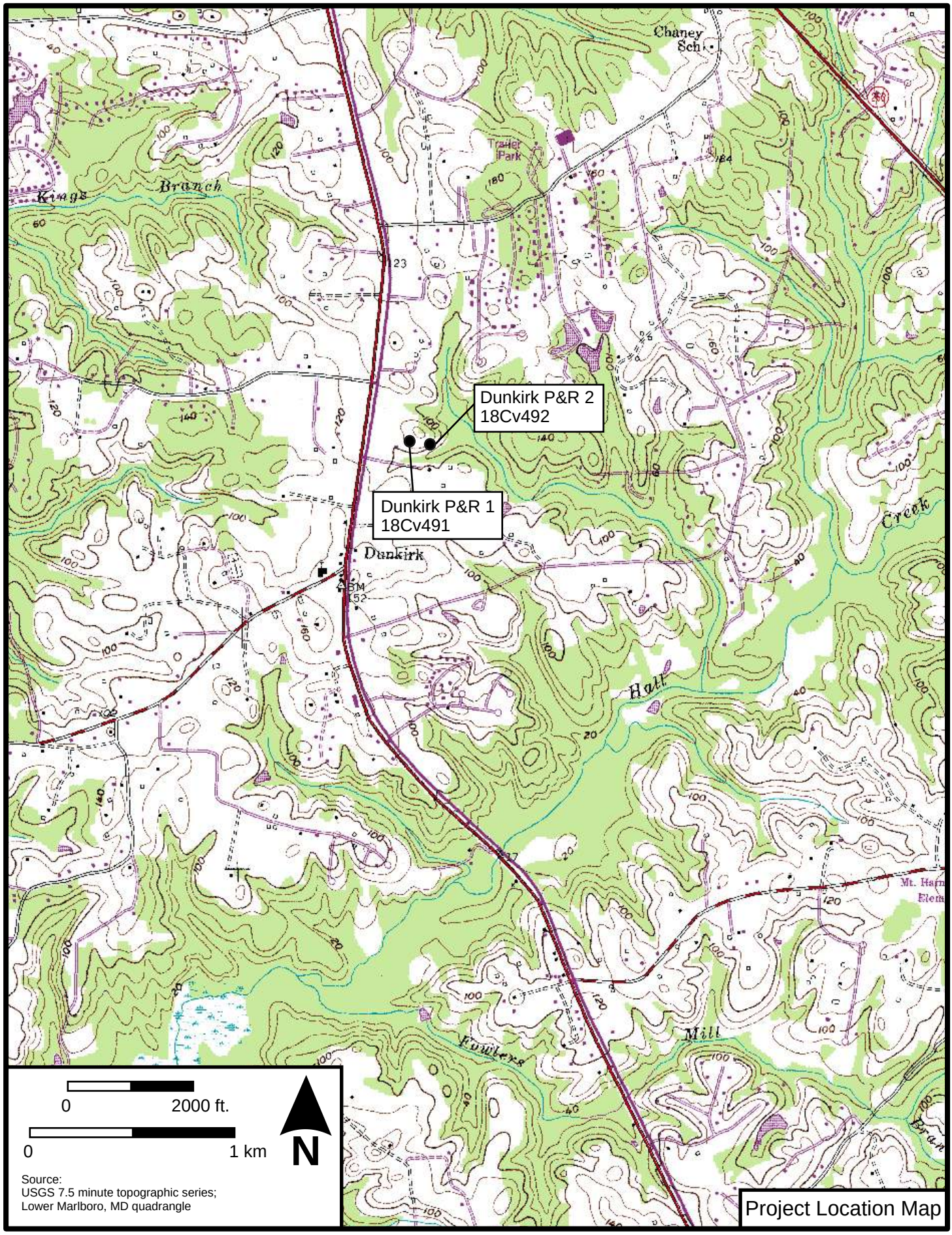
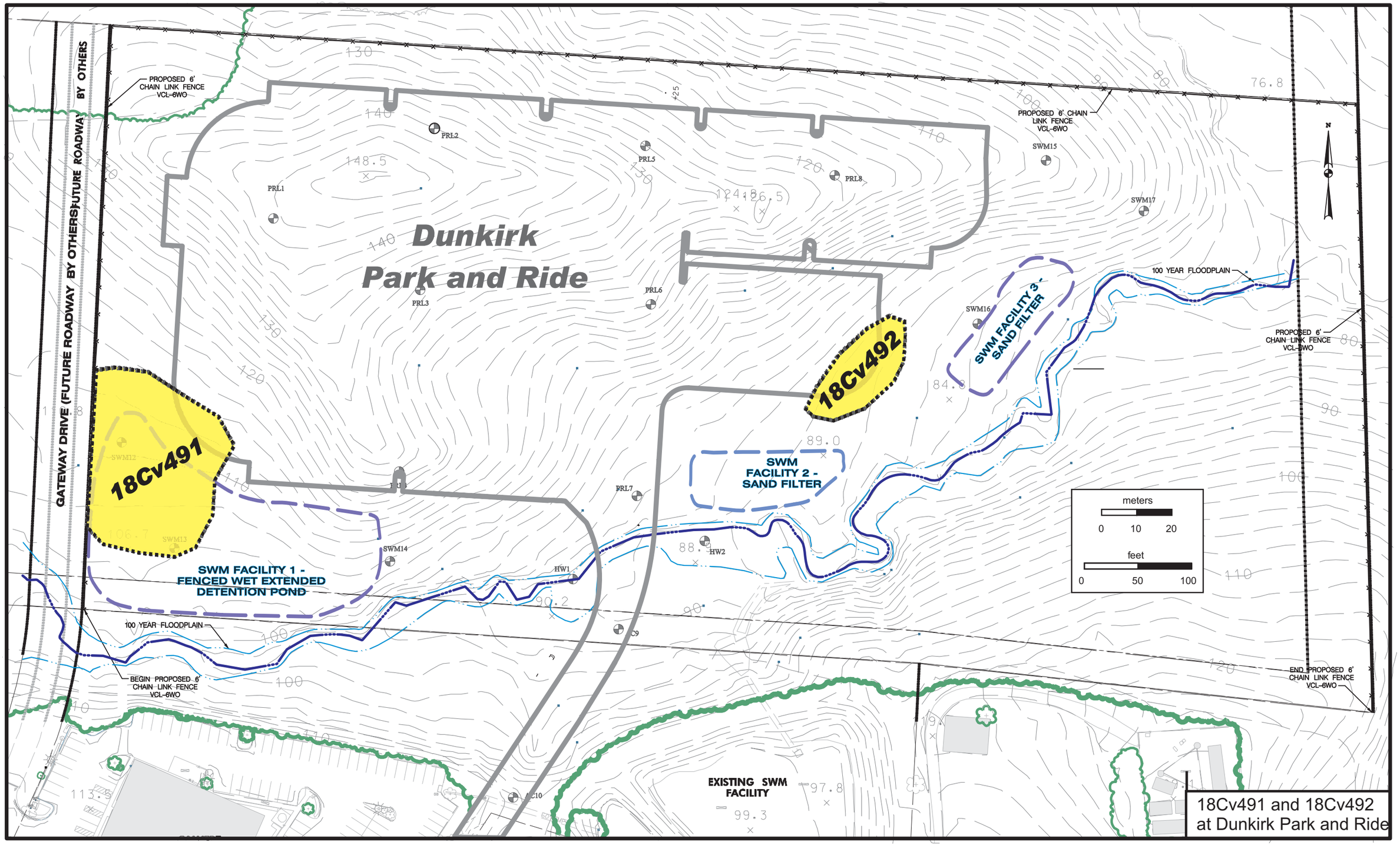

Dunkirk P&R 2
18Cv492
Dunkirk P&R 1
18Cv491
Dunkirk
Chaney Sch
Trailer Park
Kings Branch
Creek
Hall
Mill
Fowlers
Mt. Harm
Elem
0
2000 ft.
0
1 km
N
Source:
USGS 7.5 minute topographic series;
Lower Marlboro, MD quadrangle
Project Location Map

FIGURE 1



18Cv491 and 18Cv492 at Dunkirk Park and Ride

FIGURE 2

Site 1) and 18Cv492 (Dunkirk P/R Site 2) (Revised April 2009). The Phase III investigations of 18Cv491 and 18Cv492 summarized in this document adheres to research design and methodology of the aforementioned work plan.

B. Project Setting

Sites 18Cv491 and 18Cv492 are located on the Western Shore portion of Maryland's Coastal Plain physiographic province. The sites are located in Maryland Archeological Unit (MARU) 9: Estuarine Patuxent Drainage, specifically in the South River watershed.

Both sites are situated in a wooded lot that is approximately 140 meters east of MD 4 and 110 meters north of Town Center Boulevard. The wooded lot stretches across a landscape with dramatic changes in elevation and topography, which gives it a somewhat undulating character. Most of the changes in terrain are results of natural erosion and flooding processes. The woodlot is forested with a mix of deciduous trees and assorted scrub/shrub species. Most of the vegetation is clearly secondary growth; however, an occasional older tree (>50 years old) can be found therein.

Both sites are located at the bottom of a small hill on the north side of an unnamed tributary of Halls Creek. Steep slopes, the southern face of the hill, rise sharply northward at irregular angles above the terrace. Severe erosion of the hill is quite apparent. Across the hill, bluffs, benches, high plateaus, and small knolls are separated by erosional drainages and gullies. The top of the hill has eroded into a narrow crest. Evidence of past occasional flooding and scouring along the stream is also visible in the exposed faces of the stream channel. Sites 18Cv491 and 18Cv492 occupy similar upland landscapes, which can be generally characterized as gently sloping footslope positions near the bases of much more steeply inclined slopes. The sites' intact archeological deposits lie beneath remnants of a former plow zone horizon (2Ap) that is capped with colluvial deposits of varying thicknesses.

C. Summary of Interagency Project Consultation

Pursuant to the MOA, the project includes ongoing consultation with the Maryland Historical Trust and Calvert County. Consultation has been undertaken through written correspondence, verbal communication, and two interagency field views. On September 25, 2012, a mid-excavation field view (MTA and Calvert County in attendance) was held during which preliminary/anticipated findings presented. On December 6, 2012, a near-end excavation field view (MTA, MHT, and Calvert County in attendance) was held in accordance with Stipulation I of the MOA to discuss field interpretations and seek agency input on the completion of the Phase III site excavations.

D. Compliance Requirements and Project Team

The Phase I, II, and Phase III technical work at 18Cv491 and 18Cv492, and the documentation of this work, were conducted in compliance with the guidelines, principles, protocols, mandates, and requirements as set forth in:

- the Maryland Historical Trust's (MHT) *Standards and Guidelines for Archeological Investigations in Maryland* (Shaffer and Cole 1994)*; Technical Update No. 1 Conservation Standards* (July 2005)*; General Guidelines for Compliance-Generated Determinations of Eligibility* (2002)*; and MHT's Office of Research, Survey, and Registration (ORSR) guidelines.*
- *Maryland Historical Trust Act of 1985, as amended, State Finance and Procurement Article §§ 5A-325 and 5A-326 (formerly Article 83B) of the Annotated Code of Maryland;*
- *Archeology and Historic Preservation: The Secretary of the Interior's Standards and Guidelines* (FR 48:44716-44742) (Sept. 1983);
- *Curation of Federally-Owned and Administered Archeological Collections* (36 CFR Part 79*)*
- *Section 106 of the National Historic Preservation Act of 1966 (as amended)* (36 CFR Part 800).
- *Advisory Council on Historic Preservation Implementing Regulations 36 CFR Part 800 – Protection of Historic Properties (as amended)*
- *Federal Highway Act of 1966 (as amended)*
- *Section 4(f) of the U.S. Department of Transportation Act of 1966*
- *Section 101(b)(4) of the National Environmental Policy Act of 1969*
- *Executive Order 11593, Sections 1(3) and 2(b)*
- *Maryland Environmental Policy Act of 1973 (as amended)*

All work was conducted by, or performed under the direct supervision of, persons that meet the *Secretary of the Interior's Professional Qualifications and Standards (36 CFR Part 61) for Archaeology, Architectural History, and History*.

The project's research team consisted of two key McCormick Taylor archeologists. Barbara Silber served at the team's Principal Investigator with Macon Coleman as Project Archeologist. Field and laboratory support was provided by archeologists from EAC/Archeology. Project guidance was provided by MTA liaisons Daniel Reagle and John Newton.

II. SUMMARY OF ARCHEOLOGICAL FIELD INVESTIGATIONS

A total of 57.5 1-meter by 1-meter test units (1m x 1m TU) were excavated by the Phase III field investigations of 18Cv491 and 18Cv492. **Figure 3** through **Figure 7** consist of project mapping that depict excavation unit locations, features encountered, and general artifact distributions.

The Phase III investigations of 18Cv491 and 18Cv492 recovered a total of 3882 prehistoric artifacts (**Table 1** and **Table 2**). Detailed analysis of the recovered artifacts is currently in progress. Consequently, the artifact data presented in this document is presented in generalized terms. A summary catalog of general prehistoric artifact types (differentiated to date) recovered by the Phase III excavations is presented in **Table 2.**

All excavations were conducted within a site-specific, transit-established metric grid system. Block excavations were conducted within the main, or core, areas of each site. The sites peripheral areas were subjected to controlled sampling via the recovery of one square meter per ten square meters. Block and periphery excavation patterns were implemented in accordance with the approved data recovery plan, with adjustments made as warranted to delineate and recover features and artifact concentrations. All non-feature, sub-plow zone excavations were conducted in 10cm levels and in 0.50m blocks (i.e. test unit quadrants). All field excavations, and the recording of these excavations, were conducted in accordance with the methods outlined in the data recovery plan. GPS recording and standard surveying techniques were both used to record site location information.

The 57.5 Phase III TUs include 2.5 TUs beyond the 55 TUs proposed in the data recovery plan. These additional 2.5 TUs were excavated as ten 0.50m by 0.50m blocks at site 18Cv492 to mitigate site damage resulting from Hurricane Sandy (October 29-30, 2012).

As a means for organizing the discussion, the excavation results of each site are presented separately in **Section III** and **Section IV.**

Table 1:
General Summary of 18Cv491 and 18Cv492 Phase III Excavations

Site	Phase I/II		Phase III		Total	
	Excavation Units	Artifacts* Recovered	Excavation Units	Artifacts* Recovered	Excavation Units	Artifacts* Recovered*
18Cv491	18 STPs 1 TU	75	29 TUs	2087	***18 STPs*** ***30 TUs***	***2162***
18Cv492	4 STPs 1 TU	39	28.5 TUs	1795	***4 STPs*** ***29.5 TUs***	***1834***
Total	**22 STPs** **2 TUs**	**114**	**57.5 TUs**	**3882**	**22 STPs** **59.5 TUs**	**3996**

*Historic artifacts not included

Table 2:
Preliminary Summary of Phase III Artifact Assemblage

Site	Debitage	Utilized Flakes/ Flake Tools	Other*	Core/Biface Fragments	Points/ Point Fragments**	Ceramic	Bone/ Shell	Thermally-Altered Rock	Total
18Cv491									
Feature A (House Fea.)	854	59	12	18	20	11	6	110	**1,090**
Feature B (Chipping Fea.)	597	37	14	5	4	5	0	41	**703**
Peripheral Units	254	13	3	4	4	0	0	16	**294**
Total 18Cv491	*1,705*	*109*	*29*	*27*	*28*	*16*	*6*	*167*	**2,087**
18Cv492									
Block 1	713	39	29	24	13	558	53	165	**1,594**
Peripheral Units	122	13	6	1	0	1	0	58	**201**
Total 18Cv492	*835*	*52*	*35*	*25*	*13*	*559*	*53*	*223*	**1,795**
Total	**2,540**	**161**	**64**	**52**	**41**	**575**	**59**	**390**	**3,882**

* worked cobbles, hammerstones, gorget (18Cv492) etc.

** mostly unidentifiable fragments (tips, medial sections)

N 70

N 60

N 50

N 40

N 30

N 20

E 0

E 10

E 20

E 30

E 40

SWM12

TU N60.5 E0.5
Zone 1: 0
Zone 2: 3
Zone 3: 0
Zone 4: 1
Total: 4

TU N59 E9
Zone 1: 3
Zone 2: 1
Zone 3: 0
Zone 4: 0
Total: 4

TU N45 E6
Zone 1: 8
Zone 2: 13
Zone 3: 6
Zone 4: 12
Total: 39

TU N44 E15
Zone 1: 15
Zone 2: 9
Zone 3: 1
Zone 4: 0
Total: 25

TU N45 E25
Zone 1: 7
Zone 2: 4
Zone 3: 3
Zone 4: 4
Total: 18

Feature A
Zone 1: 535
Zone 2: 341
Zone 3: 135
Zone 4: 79
Total: 1090

(See enlargement map of Feature A for totals by unit)

Feature A

46

TU N35 E5
Zone 1: 22
Zone 2: 6
Zone 3: 0
Zone 4: 0
Total: 28

TU N34 E24
Zone 1: 38
Zone 2: 15
Zone 3: 1
Zone 4: 1
Total: 55

TU N30 E19
Zone 1: 68
Zone 2: 79
Zone 3: 12
Zone 4: 0
Total: 159

Feature B

14

TU N30 E20
Zone 1: 76
Zone 2: 69
Zone 3: 45
Zone 4: 16
Total: 206

TU N29 E19
Zone 1: 108
Zone 2: 41
Zone 3: 12
Zone 4: 1
Total: 162

TU N29 E20
Zone 1: 78
Zone 2: 73
Zone 3: 25
Zone 4: 0
Total: 176

TU N25 E24
Zone 1: 16
Zone 2: 9
Zone 3: 5
Zone 4: 0
Total: 30

TU N24 E5
Zone 1: 18
Zone 2: 16
Zone 3: 1
Zone 4: 6
Total: 41

TU N24 E15
Zone 1: 39
Zone 2: 3
Zone 3: 8
Zone 4: 0
Total: 50

KEY

18Cv491 Site Boundary

Phase I/II STP with prehistoric artifacts (note: size of STP not to scale)

Phase I/II STP without prehistoric artifacts (note: size of STP not to scale)

Phase I/II TU (prehistoric artifacts noted)

Phase III 10m Grid Sampling Area (1 TU per 10m x 10m)

Re-delinated Core Area of 18Cv491

Phase III 1m x 1m TU

Grid North

Magnetic North

meters
0 5 10

feet
0 25 50

Phase III Stratigraphic Zones

Zone 1 = (Buried) Plow Zone and Above

Zone 2 = 0-10cm below Plow Zone

Zone 3 = 10-20cm below Plow Zone

Zone 4 = 20+ cm below Plow Zone

Artifact Distribution Map of 18Cv491

FIGURE 3

18Cv491
Block 2, Feature A
Prehistoric Artifact Distribution
By Stratigraphic Zone

meters
0.0 0.5 1.0

10	4	5	6	16
TU 10	TU 4	TU 5 (N34E15)	TU 6	TU 16
Zone 1: 4	Zone 1: 10	Zone 1: 28	Zone 1: 31	Zone 1: 71
Zone 2: 2	Zone 2: 4	Zone 2: 8	Zone 2: 46	Zone 2: 20
Zone 3: 1	Zone 3: 3	Zone 3: 9	Zone 3: 41	Zone 3: 12
Zone 4: 0	Zone 4: 1	Zone 4: 1	Zone 4: 10	Zone 4: 11
Total: 7	Total: 18	Total: 46	Total: 128	Total: 114

12	7	8	9	14
TU 12	TU 7	TU 8	TU 9	TU 14
Zone 1: 20	Zone 1: 23	Zone 1: 71	Zone 1: 43	Zone 1: 29
Zone 2: 9	Zone 2: 5	Zone 2: 74	Zone 2: 89	Zone 2: 28
Zone 3: 4	Zone 3: 3	Zone 3: 20	Zone 3: 17	Zone 3: 7
Zone 4: 3	Zone 4: 0	Zone 4: 8	Zone 4: 17	Zone 4: 7
Total: 36	Total: 31	Total: 173	Total: 166	Total: 71

1	2	3
TU 1	TU 2	TU 3
Zone 1: 16	Zone 1: 18	Zone 1: 17
Zone 2: 2	Zone 2: 4	Zone 2: 2
Zone 3: 0	Zone 3: 1	Zone 3: 6
Zone 4: 0	Zone 4: 0	Zone 4: 0
Total: 18	Total: 23	Total: 25

13	11	15
TU 13	TU 11	TU 15
Zone 1: 52	Zone 1: 72	Zone 1: 58
Zone 2: 16	Zone 2: 19	Zone 2: 21
Zone 3: 10	Zone 3: 6	Zone 3: 4
Zone 4: 11	Zone 4: 6	Zone 4: 5
Total: 89	Total: 103	Total: 88

Phase III Stratigraphic Zones

Zone 1 = (Buried) Plow Zone and Above

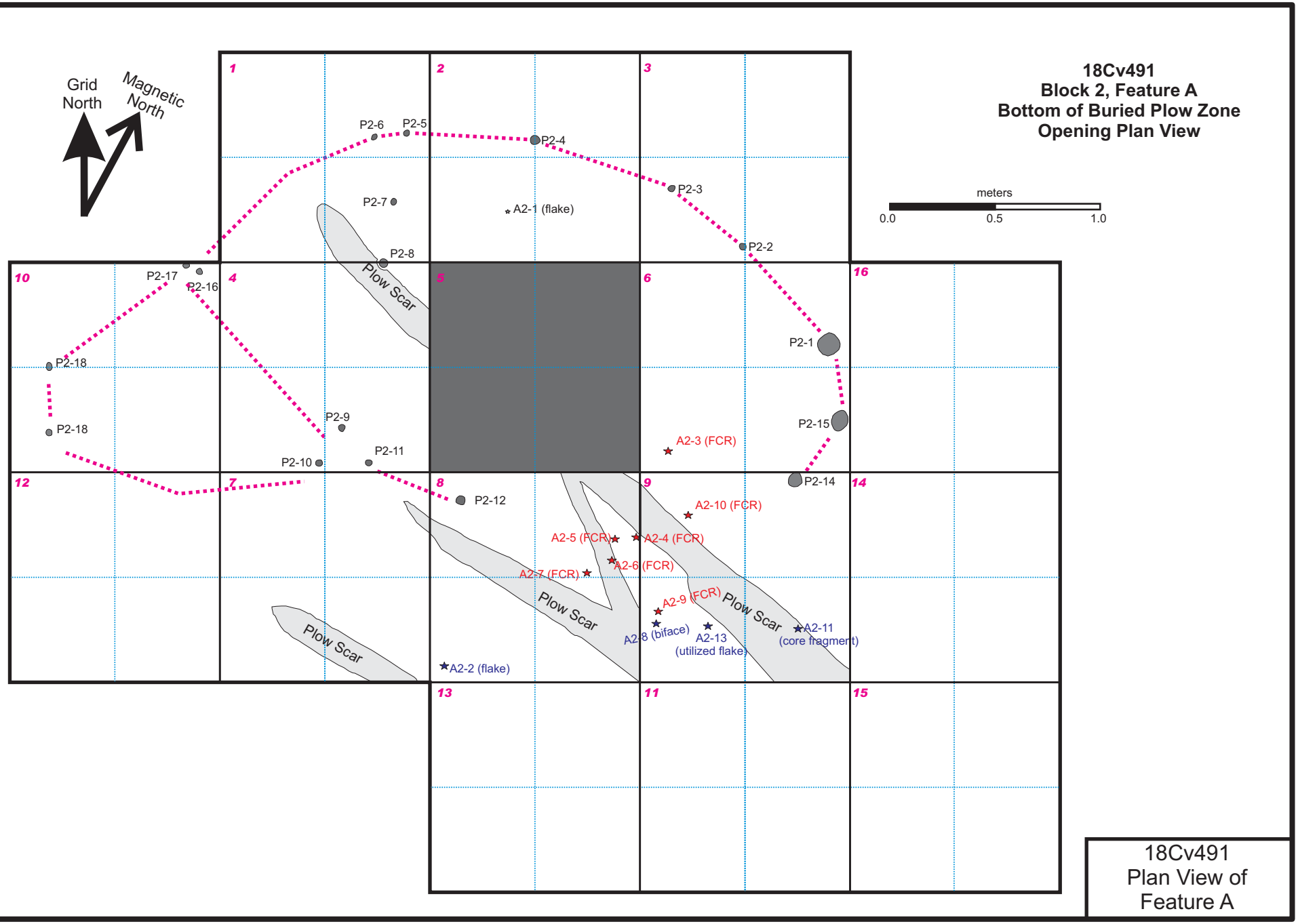
Zone 2 = 0-10cm below Plow Zone

Zone 3 = 10-20cm below Plow Zone

Zone 4 = 20+ cm below Plow Zone

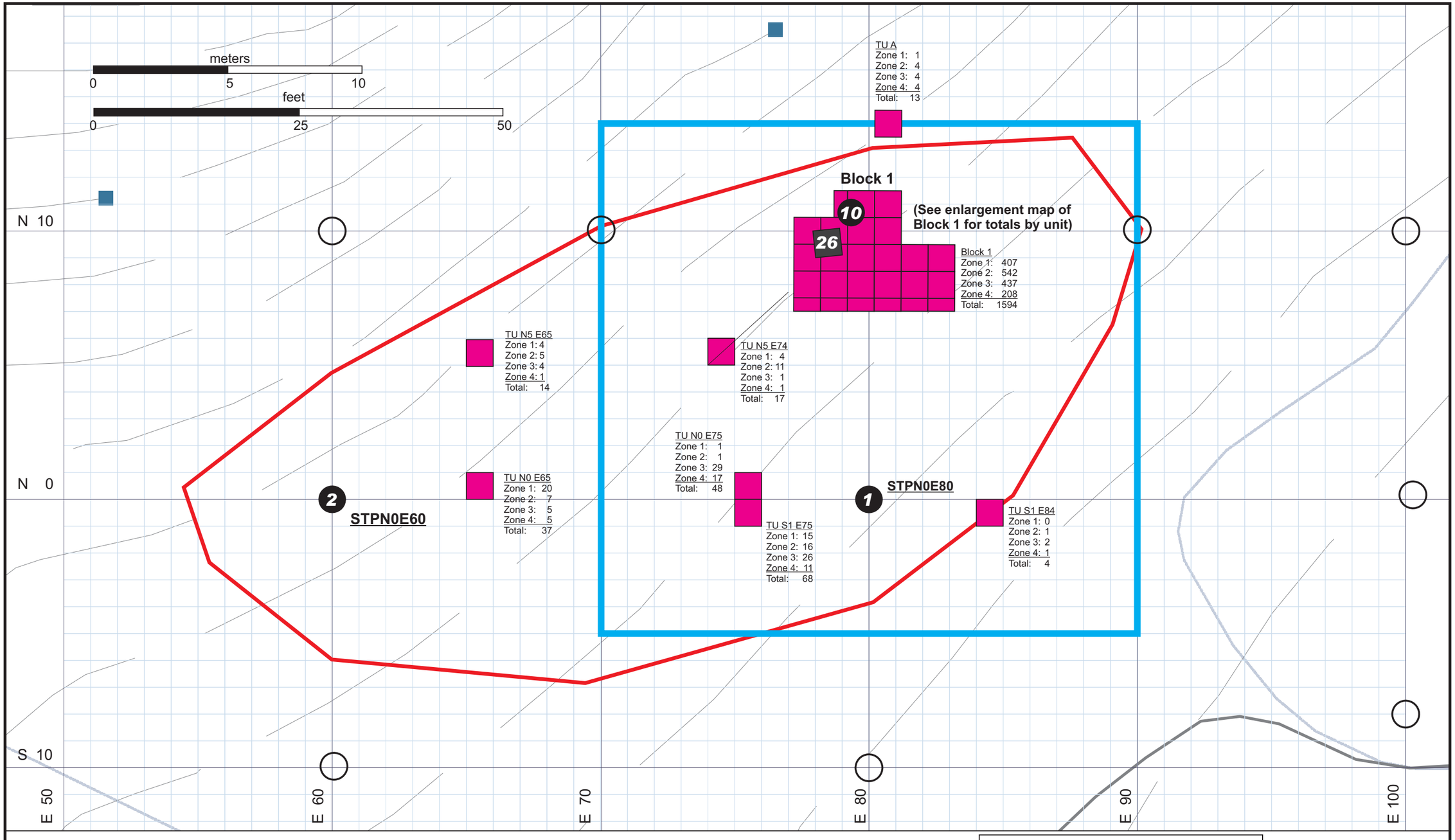
18Cv491
Feature A
Artifact Distributions

FIGURE 4



18Cv491
Plan View of
Feature A

FIGURE 5



KEY

- Phase I/II STP with prehistoric artifacts (note: size of STP not to scale)
- Phase I/II STP without prehistoric artifacts (note: size of STP not to scale)
- Phase I/II TU (prehistoric artifacts noted)
- 18Cv492 Site Boundary
- Phase III 10m Grid Sampling Area (1 TU per 10m x 10m)
- Phase III 1m x 1m TU

Phase III Stratigraphic Zones

Zone 1 = (Buried) Plow Zone and Above

Zone 2 = 0-10cm below Plow Zone

Zone 3 = 10-20cm below Plow Zone

Zone 4 = 20+ cm below Plow Zone

Grid North / Magnetic North

Artifact Distribution Map of 18Cv492

FIGURE 6

18Cv492
Block 1 - Core Area
Prehistoric Artifact Distribution
By Stratigraphic Zone

Ceramic Concentration

Debitage and Thermally-Altered Rock (aka. Fire-Cracked Rock) Concentration

Phase III Stratigraphic Zones

Zone 1 = (Buried) Plow Zone and Above

Zone 2 = 0-10cm below Plow Zone

Zone 3 = 10-20cm below Plow Zone

Zone 4 = 20+ cm below Plow Zone

meters
0.0 0.5 1.0

Phase I/II TU
Zone 1: 5
Zone 2: 14
Zone 3: 2
Zone 4: 5
Total: 26

10

TU 15 Zone 1: 14 Zone 2: 11 Zone 3: 6 Zone 4: 4 Total: 35	TU 13 Zone 1: 14 Zone 2: 29 Zone 3: 4 Zone 4: 2 Total: 49	TU B/C Zone 1: 8 Zone 2: 9 Zone 3: 7 Zone 4: 10 Total: 34	TU 16 Zone 1: 9 Zone 2: 47 Zone 3: 15 Zone 4: 14 Total: 85	TU 14 Zone 1: 49 Zone 2: 65 Zone 3: 29 Zone 4: 12 Total: 155	TU 17 Zone 1: 9 Zone 2: 12 Zone 3: 15 Zone 4: 10 Total: 46	TU 18 Zone 1: 18 Zone 2: 40 Zone 3: 16 Zone 4: 13 Total: 87
TU 12 Zone 1: 2 Zone 2: 4 Zone 3: 4 Zone 4: 1 Total: 11	TU 10 Zone 1: 6 Zone 2: 9 Zone 3: 3 Zone 4: 4 Total: 22	TU 8 Zone 1: 12 Zone 2: 25 Zone 3: 14 Zone 4: 12 Total: 63	TU 6 Zone 1: 20 Zone 2: 30 Zone 3: 16 Zone 4: 8 Total: 74	TU 4 Zone 1: 18 Zone 2: 23 Zone 3: 27 Zone 4: 0 Total: 68	TU 2 Zone 1: 16 Zone 2: 17 Zone 3: 7 Zone 4: 6 Total: 46	
TU 11 Zone 1: 8 Zone 2: 1 Zone 3: 8 Zone 4: 8 Total: 25	TU 9 Zone 1: 20 Zone 2: 8 Zone 3: 17 Zone 4: 1 Total: 46	TU 7 Zone 1: 15 Zone 2: 15 Zone 3: 18 Zone 4: 19 Total: 67	TU 5 Zone 1: 24 Zone 2: 47 Zone 3: 40 Zone 4: 17 Total: 128	TU 3 Zone 1: 20 Zone 2: 18 Zone 3: 23 Zone 4: 0 Total: 61	TU 1 Zone 1: 83 Zone 2: 28 Zone 3: 8 Zone 4: 1 Total: 120	
TU D/E Zone 1: 1 Zone 2: 5 Zone 3: 13 Zone 4: 12 Total: 31	TU F/G Zone 1: 4 Zone 2: 16 Zone 3: 19 Zone 4: 13 Total: 52	TU H/I Zone 1: 7 Zone 2: 23 Zone 3: 30 Zone 4: 16 Total: 76	TU J/K Zone 1: 4 Zone 2: 34 Zone 3: 63 Zone 4: 14 Total: 115	TU L/M Zone 1: 9 Zone 2: 15 Zone 3: 30 Zone 4: 3 Total: 57	TU N/O Zone 1: 17 Zone 2: 11 Zone 3: 5 Zone 4: 8 Total: 41	

Grid North
Magnetic North

18Cv492
Block 1 - Core Area
Artifact Distributions

FIGURE 7

A. Summary of Near-End Interagency Field View

Prior to the near-end field view, two of the 31 Phase III excavation units that were originally allocated to 18Cv491 were reserved. During the near-end interagency field view, consultation was sought to determine where the two remaining units would best serve to fulfill the data recovery goals. After reviewing both sites' characteristics and artifact distributions, it was agreed that 18Cv491 did not contain any areas, explored or unexplored, where further site excavations would provide any additional new or significant information about site beyond that which had already been recovered by the 29 units that had already been completed therein. It was subsequently agreed that, in lieu of recovering redundant data at 18Cv491, the project would benefit the most by transferring the two remaining 18Cv491 units to 18Cv492 (which was originally allocated 24 test units). By increasing the number of test units at 18Cv492, the project would be provided with an opportunity to better examine, define, and recover two small concentrations of thermally-altered rock (aka. fire-cracked rock) that had been identified at 18Cv492 prior to the field view.

B. Summary of Geoarcheological Study and Discussion of Site Stratigraphy

The Phase III investigations also included formal geoarcheological studies of 18Cv491 and 18Cv492. The purpose of this study to assess the soils and landscapes available to prehistoric populations, as well as the extent of historic impacts accrued since the initiation of European settlement. Geoarcheological investigations were directed toward examining and analyzing soil and geomorphic features for indications of landscape stability, buried surface levels, deposit types, and environmental conditions relating to human utilization of a landscape (Wagner 2013). This study was conducted by pedologist Dr. Daniel Wagner. The study entailed field examinations of four Phase III excavations units, three units at 18Cv491 and one unit at 18Cv492. Soil particle size analyses of one field sample from each site was also performed. The geoarcheological field examinations were conducted during the early stages of the Phase III site excavations in order to provide archeologists with information that would assist with identifying and delineating cultural strata and confirming the depth to culturally sterile soil during the course of the excavations.

The results of the geoarcheological study indicate that although each site possesses its own set of characteristics, overall, the sites' soils and formation processes are similar. Both sites contain typical soils that have formed from sediments of the Calvert Formation.

Most of 18Cv491 and all of 18Cv492 is capped with a thick surficial mantle of tillage-induced slope wash derived from the adjacent higher slope(s)[1]. The slope wash mantle averages approximately 30 cm in thickness; however, the thickness of the mantle varies across the sites depending on distance from the higher slope (Wagner 2013). The thickness of the mantle was observed to range between 20 cm and 80 cm. The modern surface of the colluvium has been plowed.

[1] In areas that are devoid of the slope wash mantle, specifically, the southern edge of site 18Cv91, the soil profile beneath the current A horizon consists of a former modern plow zone (Ap) atop truncated subsoil (BE).

The original surface (2Apb) lies beneath the slope wash mantle. This buried surface has also been plowed and remains of the buried plow zone are easy to identify. The buried plow zone horizon (2Apb) is approximately 10 centimeters thick, and its thinness implies that plowing (prior to slope wash burial) was probably conducted by animal-drawn equipment (Wagner 2013). Physical evidence to support the contention that past plowing was conducted manually and/or through use animal power was found at 18Cv491. In several units, project researchers encountered deep, irregular linear plow scars in the underlying subsoil. At 18Cv491, the buried plow zone horizon consists of dark grayish brown (10YR 4/2) and brown (10YR 4/3) fine sandy loam. At 18Cv492, the buried plow zone at 18Cv492 is characterized as dark brown (10YR 3/3) and dark yellowish brown (10YR 4/4) fine sandy loam (Wagner 2013).

Historic and prehistoric artifacts were recovered from the buried plow zone at 18Cv491 and 18Cv492; however, the historic artifact density of the buried plow zone of both sites is very low. This low artifact density is compatible with archival photographs/historical information provided by Calvert County, which indicate that overall, historic activities of the property within which the sites are located have been limited. That said, the depositional context of the prehistoric material in the buried plow zone horizon has been compromised by the, albeit, limited past plowing, and mixing is apparent. Analysis of horizontal and vertical migration of artifacts across the site is currently in progress. It is anticipated that this work, coupled with analysis of the few historic artifacts that were recovered and archival research, will also provide information about the property's historic land use.

An E horizon or a BE horizon (2Eb or 2BEb) lies beneath the buried plow zone depending on location. The soil of these horizons generally consists of various dark yellowish brown (10YR 4/6, 10YR 4/4), yellowish brown (10YR 5/4), and/or light olive brown (2.5Y5/5) fine sandy loams (Wagner 2013). E Horizons were encountered at both sites in areas closer to the higher slope. Overall, differences in the various 2Eb and 2BEb horizons located beneath the buried plow zone correlate to combinations of past tillage, position on the landscape, and/or thickness of the slope wash mantle. Prehistoric artifacts were recovered throughout the E and BE horizon; however, the majority of the artifacts are confined to the top twenty centimeters of these horizons. These findings coincide with the results of the geoarcheological study which notes that

> "Because of the Pleistocene age most cultural material should largely be contained below the upper mantle of historic slope wash and near the original surface level (2Apb), although some upward mixing into the historic zone could have occurred during plowing. Some cultural materials are also likely to be present in underlying upper subsoil horizons (2Eb and 2BEb) where they are often readily introduced by natural bioturbational processes." (Wagner 2013)

At both sites, the 2Eb and 2BEb horizons overlie an advanced argillic horizon (2Btb), which pursuant to the results of the geoarcheological study generally marks the depth potential for cultural deposits (Wagner 2013).

The geoarcheological soil particle analysis revealed that the portions of the sites' soils profiles below the slope wash mantle (2Eb through 2Btb) exhibit textural progressions of clay, sand, and silt with depth that are typical of mature soil profile development in upland settings. A significant increase in subsoil clay content marks advanced argillic horizon (2Btb) development. These findings are of archeological interest because they demonstrate that mostly stable landscape conditions have existed at both sites for a period likely reaching well into the Pleistocene and predating even the earliest human inhabitants of the region (Wagner 2013).

The soils of 18Cv492 and 18Cv492 are classified as Howell map unit variants under the current Natural Resources Conservation Service (NRCS)'s Soil Survey Geographic database (SSURGO).

III. SUMMARY OF 18CV491 FIELD INVESTIGATIONS

Site 18Cv491 spans several local, micro-positions within its general footslope location. The site is situated on near-level terrain to slightly-sloped terrain. A small deflated hill is located in the southwest quadrant of the site. Much of this hill, as well as areas along the southern edge of the site lacks the colluvial overburden. In these areas, the profile consists of a former modern plow zone atop truncated subsoils (BE horizon). The remainder of the site is capped with slopewash. The site is relatively well-drained; however, substantial ground seepage from rises in the water table is not uncommon during wet seasons.

A total of 29 1m x 1m test units (TU) were excavated at 18Cv491. Two block excavations, one 16-unit block and one 4-unit block were excavated in the site's main area. Eight individual TUs, one TU per 10-meter grid block, were excavated around the site's peripheries.

The site's best-preserved prehistoric deposits are located in the portions of the site that are capped with slope wash. The highest concentrations of artifacts are contained in the buried plow zone (2Apb) and the first twenty centimeters of the E/BE horizon (2Eb/2BEb) beneath the buried plow zone (2Apb). Although artifacts were recovered throughout the soil profile, artifact densities decrease sharply below the first twenty centimeters of the E/BE horizon.

The Phase III investigations have redefined the core area of the site. The core area encompasses approximately thirty square meters in the south central portion site (**Figure 3**). This portion of the site is capped with approximately twenty to thirty centimeters of slopewash. The core area of 18Cv491 clusters around N34E15 and N30E20. Several features were identified and subjected to excavation in the core area. The combined Phase I/II and Phase III excavations demonstrate that artifact densities decline outward from the core area of the site (**Figure 3** and **Figure 4**).

The Phase III peripheral units were excavated in various positions on the landscape to acquire data that for use in discerning temporal or functional differences in landscape use (i.e. siting and site layout). While several of the peripheral units did yield prehistoric artifacts from both plow zone and sub-plow zone contexts, these peripheral assemblages are not nearly as diverse as those collected from the core area. Aside from two points, both of which were recovered from compromised contexts, these assemblages also do not contain any particularly unique types or collection of types. No artifact concentrations or discrete subsurface features were encountered in sub plow zone stratigraphic contexts in any of the peripheral units. Nonetheless, collectively, the data recovered from the peripheral units do provide supplemental information about site usage. Collectively, these data are an accurate representative sample of the site's peripheries.

A. Features

Two features, designated Feature A and Feature B, were identified and excavated at 18CV491.

1. Feature A

Feature A is the partial remains of house feature that is represented by a series of postmold features and several associated artifact concentrations. This house feature was excavated within the 16-unit block excavation around N34E15 (**Figure 4** and **Figure 5**).

The postmold features were identified directly beneath the buried plow zone horizon. A total of 18 postmold features were identified, recorded, and excavated. The tilt and horizontal configurations of the postmolds reflect a prevailing house pattern, but also suggests the feature area has been subjected to repeated use. The prevailing house feature is oval in shape, and approximately three meters long by two meters wide. The long axis of the house feature is oriented northwest-southeast. Two breaks in the postmold pattern suggest that the house probably accessed from its south side. The dimensions of the postmolds and house feature is compatible to those that have been recorded in other small upland settings throughout the Middle Atlantic region (Silber et al. 2003; Custer and Silber 1994; Custer and Hodny 1989).

A small concentration of fire-cracked rock, the likely remains of a hearth, is situated in the southeast corner of the prevailing house pattern.

A total of 1,090 artifacts were recovered by the 16-unit block excavation of Feature A (**Figure 4; Table 2**). Diagnostic artifacts recovered in or in the immediate vicinity of Feature A include 11 small sherds of Accokeek ceramic, four Piscataway points, one fishtail (aka. Orient) point, a base of a triangle point, and two contracting stem variants. Collectively, the projected date ranges of these artifacts span the Late Archaic through Late Woodland periods. Artifact analysis of the house feature is currently in progress. It is anticipated that these analyses will be able to differentiate temporal components within the feature.

2. Feature B

Feature B is a dense concentration of lithic artifacts that is located approximately two meters southeast of the house feature. This feature was excavated via a 4-unit block around N30E20 (**Figure 3**). A total of 703 artifacts were recovered from this artifact concentration (**Figure 3, Table 2**). Based on preliminary analysis of tool and debitage assemblages, this feature has been identified as an activity area, specifically a chipping feature, that was associated with the house feature. Feature B yielded several diagnostic artifacts. These artifacts are one steatite bowl fragment, three pieces of Accokeek ceramic and two Piscataway points, which collectively span the Late Archaic through Early Woodland Periods.

3. Other Artifact Concentrations

A smaller concentration of lithic artifacts is also located approximately two meters east of the house feature. This concentration was recovered from TU N34E24, which was the closest peripheral unit to the core area. While the quantity and diversity of its artifact assemblage is

not nearly as notable as those recovered from the units excavated five meters to the west, it is possible that this small artifact concentration may constitute the remains of a very small, single use activity area. Other small lithic scatters are located at TU N45E6 and TU N24E5.

In and of themselves, neither the lithic scatters nor their individual assemblages are particularly interesting. These scatters are far from unique and, no doubt, they are only a few of many more similar, non-descript, sites that exist throughout the region. That said, what is of interest is their spatial relationship to the core area of 18Cv491. Recordation of their locations, which has already been accurately accomplished, has provided another means with which to understand the spatial patterning of the site. Therefore, while the aforementioned lithic scatters are recognized as representing small activity areas within the overall site, it has been concluded that these scatters have been sufficiently sampled and that the recovered samples provide ample data that can be applied towards interpreting the roles of these scatters as they relate to overall site usage.

B. Summary of Artifacts Recovered from 18Cv491

A total of 2,087 prehistoric artifacts were recovered by the Phase III excavations from 18Cv491. The majority of these artifacts were recovered from the Feature A and Feature B excavations. The assemblages from these excavations constitute approximately 85 percent of the total assemblage (Feature A = 52%; Feature B = 33%) (**Table 2**). The majority of the recovered artifact assemblage consists of debitage and fire-cracked rock.

The non-diagnostic lithic tool assemblages include bifaces/biface fragments, core fragments, unifacial tools, and utilized flakes. The majority of the non-diagnostic tools are heavily-worn and clearly discards. Most of the debitage, core fragments, biface fragments, and expedient tools are made of cobble quartz and quartzites; however, the assemblage also includes chert, rhyolite, and jasper. Other recovered artifacts include several worn hammerstones, and worked cobbles. It is anticipated that detailed lithic analyses (e.g., flake attribute and edge wear studies) will result in an increase in the number of tools, specifically expedient tools, especially in the vicinity of the house pattern and large chipping feature. Features A and B are the only two areas within 18Cv491 that yielded ceramic artifacts.

In addition to the fishtail (Feature A), six Piscataways (Feature A = 4; Feature B = 2); two contracting stem (Feature A), and triangle (Feature A) points, site excavations also recovered two Susquehanna broadspears from two of the peripheral units (TU N24E5 and TU59 E9). All of the recovered projectile points have been heavily-sharpened and/or broken. The point addition to the aforementioned points, several undatable point fragments (e.g., tips and medial sections) were also recovered from the site.

C. Implications

Although data analysis is still in progress, several general observations and conclusions can be made about the temporal use of 18Cv491 and its unique house feature.

The recovery of diagnostic artifacts from multiple time periods clear indicates that 18Cv491 was subjected to recurrent use. Visitation was like most frequent during the Late Archaic and Early Woodland Periods.

The site clearly contains a Late Archaic component, as supported by the steatite bowl fragment, the two broadspears (2000 B.C. – 1500 B.C.; Custer 2001), and the fishtail point (1200 B.C.-800 B.C.).

The fishtail and Piscataway points recovered from Feature A are of much chronological interest since both have projected date ranges that span the Late Archaic and Early Woodland time periods. While it is quite possible that fishtail point could be associated with the Early Woodland occupation implied by the Accokeek ceramic sherds (900 B.C. – 300 B.C.; http://www.jefpat.org/diagnostic/), the coincidence of fishtail points with Late Archaic steatite vessels and Early Woodland steatite-tempered ceramics is a common occurrence throughout the Middle Atlantic region (Custer 2001). The Piscataway projectile points introduce a similar situation due to due to their known associations with both Late Archaic and Early Woodland occupations (e.g. Pig Point Site; Luckenbach et al. 2010), and notably their association with Accokeek ceramic.

While it is anticipated that the ongoing studies will be able to differentiate temporal components of the site, the progressive sequence of the site's diagnostic assemblage clearly reflects continuous, repeated use of the site.

The discovered house feature at 18Cv491 join a growing number of such features that have been discovered in upland settings. Like the house patterns at other sites (e.g. 36Ch674; 7NC-A-17), the house pattern at 18Cv491 is small, faint, and could have been easily overlooked. The recovery of this feature provides additional information that can be used to examine the spatial layout of small, seasonal encampments of the region.

IV. SUMMARY OF 18CV492 FIELD INVESTIGATIONS

Site 18Cv492 occupies gently sloped terrain within its general footslope position. All of the site is capped with slope wash. The average thickness of the slope wash is approximately 50 centimeters.

A total of 24 1m x 1m test units (TU) have been excavated at 18Cv491. Excavations entailed one block excavation of 21.5 1m x 1m TUs in the site's core area and excavation of six individual TUs to sample peripheral site areas (1 TU/10m grid block) (**Figure 6** and **Figure 7**). All sub-plow zone excavations were conducted in 0.50m x 0.50m blocks (i.e. TU quadrants).

No discrete pit features were encountered in the core or peripheral areas of 18Cv492. Three distinct artifact concentrations, two ceramic concentrations and one debitage/fire-cracked rock concentration, have been defined in the site's core area (**Figure 7**). The two ceramic concentrations are located TU 14 and TU 1 of the 18Cv492 core area, which are located in the north half and southeast corner of the core area, respectively. Preliminary results suggest that the majority of the sherds recovered from the each concentration are from a single vessel (i.e. one vessel in each concentration). The debitage/fire-cracked rock concentration is located in the southern, and downslope, portion of the 18Cv492 core area. This concentration is primarily located in TU 5.

One fire-cracked rock concentration is located approximately seven meters downslope and southwest of the 18Cv492 core area. This concentration is located in TU N0E75 and TU S1E75 (**Figure 6**).

As noted earlier, during the near-end excavation field view, the collective project team transferred two of excavation units allocated to 18Cv491 to 18Cv492. The purpose of this transfer was to increase the recovery sample of the two aforementioned fire-cracked rock concentrations. One of these appropriated units was utilized to excavate TU S1E75. The other appropriated unit was utilized to explore the fire-cracked rock/debitage concentration noted in TU 5.

After reviewing artifact distributions of the 0.50 square meter blocks surrounding TU 5, the remaining appropriated test unit was divided into four 0.50 meter x 0.50 meter blocks. These four 0.50-meter square blocks (designated "quads I, J, K, and L") were aligned east-west of one another with the center two blocks (the equivalent of one half of a test unit) abutting the south side of TU 5. To accommodate the growing instability of the block excavation's south wall caused by Hurricane Sandy, additional 0.50-meter square blocks were excavated along the remaining segments of the block's south wall. Two similar blocks were also excavated to mitigate storm damage in the northwest corner of the block.

Spatial analysis of the artifact distributions across the site are currently in progress.

A. Summary of Artifacts Recovered from 18Cv492

A total of 1,795 prehistoric artifacts were recovered by the Phase III excavations from 18Cv492. The majority of these artifacts were recovered from the block excavation in the core area of the site (**Table 1** and **Table 2, Figure 6** and **Figure 7**). The majority of the recovered artifact assemblage consists of debitage and ceramic sherds. The only diagnostic artifact that was not recovered from the 18Cv492 core area is one small, heavily-weathered Accokeek sherd, which was recovered from TU S1E75. This lone sherd was recovered from the compromised buried plow zone horizon.

Most of the 18Cv492 diagnostic artifact assemblage consists of Accokeek sherds; however, a very small number of Mockley sherds, and several projectile points are also contained therein. The projected date ranges for Accokeek (900 B.C. – 300 B.C.; http://www.jefpat.org/diagnostic/) and Mockley (A.D. 200 – A.D. 900; http://www.jefpat.org/diagnostic/) wares reflect Early – Middle Woodland use of the site; however, the prevalence of Accokeek, coupled with recovered Vernon and Piscataway points, implies more rigorous use of the site during the Early Woodland Period. The single basal noted point, typically a point type attributed to the Middle-Late Woodland Period (A.D. 0 – A.D. 1000; Custer 2001), and small assemblage of Mockley sherds seem to represent a smaller Middle Woodland occupation. Two gorget fragments, which appear to represent two separate gorgets, were also recovered from the block excavation. Both gorget fragments were recovered from a tree disturbance in the northeastern quadrant of the block excavation.

Preliminary inventorying has revealed that the non lithic tool assemblages is generally similar to that of 18Cv491. To date, several core fragments, unifacial tools, and utilized flakes have been identified within the assemblage. The majority of the non-diagnostic tools are exhausted discards.

Most of the debitage and non-diagnostic tools are cobble quartz. Other recovered artifacts include several worn hammerstones, and worked cobbles. Detailed lithic analyses (e.g., flake attribute and edge wear studies) is currently underway. It is anticipated that these studies will provide information about the lithic technologies of 18Cv492

B. Implications

Although data analysis is still in progress, some general comments can be made about 18Cv492. While 18Cv491 and 18Cv492 share many similarities, the excavation results have discovered notable differences between the two sites. While it can be deduced that both sites contain Early Woodland components, the diagnostic artifact assemblage from 18Cv492 suggests a somewhat younger occupation. While this supposition can be quickly dismissed as a bias influenced by the substantially higher number of ceramic artifacts in the 18Cv492 artifact assemblage, the preliminary results clearly demonstrate that the sites possess obvious differences in their functional usage. Pursuant to the research design, many of the key issues that are currently under examination revolve around any shared temporal and/or functional relationships.

V. CONCLUSIONS

The Phase III field investigations of 18Cv491 and 18Cv492 has accurately recovered and recorded field data that can be used to accurately and comprehensively describe and interpret the site and its NRHP-defining characteristics.

The Phase III field investigations have fulfilled the goals for the fieldwork component of the site studies. The field investigations have resulted in the creation of a written, visual, and artifact record that are accurate representations of the archeological remains of 18Cv491 and 18Cv492. The field investigations have recorded horizontal and vertical provenience information of artifacts, features, landscape characteristics located within and around the sites.

Evaluation of the recovered data has concluded that the data is scientifically sound. The recovered datasets contain more than sufficient data that is necessary for interpreting the prehistoric occupations that existed at 18Cv491 and 18Cv492. Analyses of the sites' artifacts, ecofacts, features, landscape, and other attributes, will provide the information needed to address research issues pertaining to the

- the functional uses of the sites,
- lithic technologies practiced at the sites, and
- the role of the sites in regional settlement patterns.

Importantly, it has also been concluded that the recovered data provides the means through which to address the site-specific and regional research issues as detailed in the project's data recovery plan that constitutes Exhibit A of the MOA.

The investigations have recovered samples of lithic and non-lithic artifacts that can used to interpret the activities that occurred. This coupled with diagnostic assemblages provide researchers with the means to establish site chronologies and differentiate occupations. The data recovered through the Phase III investigations, and interpretation of these data, provide a complete and accurate perspective of the site, and importantly, the role of these small, often overlooked sites along small, low-order, interior wetland settings.

In conclusion, it has been concluded that the methods employed and yields of the Phase III field investigations fulfill the fieldwork component of Stipulation 1 of the MOA. It has been concluded that any additional work would only result in the acquisition of redundant information. It has been concluded that additional fieldwork would not provide any new or significant information about site beyond that which had already been recovered. Consequently, no further fieldwork is recommended.

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